

# **Data Accessibility and Accuracy Evaluation for the San Joaquin River Salmon Program**

**Tim Heyne**

## **Public Comments**

No public comments were received for this proposal.

# Technical Synthesis Panel Review

## Proposal Title

#0353: Data Accessibility and Accuracy Evaluation for the San Joaquin River Salmon Program

Final Panel Rating
adequate

## Technical Synthesis Panel (Primary) Review

### TSP Primary Reviewer's Evaluation Summary And Rating:

The proposed investigation has two main goals related to the San Joaquin River Salmon Program: 1) increase the availability of data through internet dissemination, and 3) reduce uncertainties in the evaluation and interpretation of carcass survey data by estimating potential biases. While there is no development of a conceptual model, the objectives and justification is generally clear. Both objectives are important goals, but are quite distinct issues and perhaps should be treated separately in evaluating in the proposal. For the web development, the goals and objectives are clearly stated and generally consistent. The approach to web development is generally well described and straightforward. As written, it is not clear that the hypotheses for data access are testable and the investigators do not justify the need for web development, other than stating that the department gets requests for permutations of the data. The only described way for web-site evaluation is a exit questionnaire. The key issue is: will more individuals/parties use the data if available on a web site? Reviewers were skeptical that such an intensive effort would generate a substantially wider user audience. Finally, it is not clear that web site maintenance will continue after this proposed investigation is completed, limiting the utility of the web

## Technical Synthesis Panel Review

site product. For the evaluation of carcass data, some hypotheses mentioned are useful and testable, whereas others are vague and it is unclear if these hypotheses can be tested. Although bias evaluation is justified, this part of the proposal was generally vague in approach. It is not clear exactly how biases will be estimated and interpreted. Only one weir currently exists, potentially limiting the approach and analysis. Furthermore, it is a rather local issue. As one reviewer noted, "I doubt that the findings from the Stanislaus River will be directly applicable to correcting biases from other rivers." The proposed work is generally justified, feasible, and there is a high likelihood of success. Reviewers agreed that too much of the budget is focused on web development, and it is not clear that sort of investment will lead to broader dissemination and use of the data. Overall, both objectives are important but rather local in scope, being restricted to one taxon in one river basin and not tied to any general scientific questions. A greater emphasis should be placed on a general approach to estimating biases in salmon carcass surveys and potential applications to other river systems.

### Additional Comments:

The two objectives are very distinct in this proposal. I would give the web development a rating of inadequate, and the bias estimation of carcass surveys an adequate rating.

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## Technical Synthesis Panel Review

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## Technical Synthesis Panel (Discussion) Review

### TSP Observations, Findings And Recommendations:

Data Accessibility and Accuracy Evaluation for the San Joaquin River Salmon Program

### Technical Synthesis Panel Review

The two objectives of this study are to develop a web site to make data available and to reduce uncertainty in estimating the biases in carcass data.

The panel felt that the justification for the need of the website development was unclear. It was not clear how widely the website would be used.

The panel considered the work on carcass data bias most valuable. The proposal was considered a bit vague on how the researchers would approach reducing the bias. The reviewers also felt that it was unclear how general the results of the carcass study would be for estimating bias in other rivers.

The panel agreed that evaluating monitoring data is an important goal.

A shortcoming identified by the panel was that the researchers could only do the weir data collection in one river, and not in the other two rivers that the researchers are proposing to study.

Rating: adequate

# Technical Review #1

proposal title: Data Accessibility and Accuracy Evaluation for the San Joaquin River Salmon Program

## Review Form

### Goals

Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the idea timely and important?

Comments	Yes, the goals and objectives are clearly stated. Hypothesis testing is not really relevant to the database development portion of the proposal. It would be good to refine the hypotheses for the carcass survey portion of the proposal and frame them as a series of null hypotheses that could be tested and rejected. But generally okay.
Rating	very good

### Justification

Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

Comments	The authors don't provide much evidence for the need for a better, more accessible database. There probably is such a need, because usually in a big basin with lots of independent research and management projects, dissemination of information is one of the biggest problems. However, I would like to see counts of the numbers of investigators that have been trying to access these data and the institutions that they represent. The conceptual model that relates to carcass surveys is not well stated
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## Technical Review #1

	and needs elaboration.
Rating	good

## Approach

Is the approach well designed and appropriate for meeting the objectives of the project? Is the approach feasible? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology, or approaches? Will the information ultimately be useful to decision makers?

Comments	Yes to the database part, but they need a better way of getting feedback for refining the initial database and website. I don't think an exit questionnaire will be sufficient - most users won't take the time to fill it out. They should consider a concerted effort to refine the website in years 2 and 3, much like what they would do for the initial setup. They should set up another committee, with some new faces who were not involved in suggesting the design. What happens if there are no other weirs installed in other streams besides the Stanislaus? I doubt that the findings from the Stanislaus River will be directly applicable to correcting biases from other rivers.
Rating	good

## Feasibility

Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives and within the grasp of authors?

Comments	Yes, the proposed work is technically feasible and has a good likelihood of success.
Rating	very good

## Technical Review #1

### Monitoring

If applicable, is monitoring appropriately designed (pre–post comparisons; treatment–control comparisons)? Are there plans to interpret monitoring data or otherwise develop information?

<b>Comments</b>	Few specifics of the carcass estimating effort are provided, but the general plan seems to be okay. The authors intend to publish these findings appropriately, and also to re-analyze old data to correct biases.
<b>Rating</b>	good

### Products

Are products of value likely from the project? Are contributions to larger data management systems relevant and considered? Are interpretive (or interpretable) outcomes likely from the project?

<b>Comments</b>	Yes
<b>Rating</b>	very good

### Additional Comments

<b>Comments</b>	One component (database development) doesn't really hinge on the success of the other (carcass studies). Could these efforts be funded separately? The carcass surveys would generate useful scientific and management information, but if they are only able to be carried out in one river they might not be widely applicable.
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### Capabilities

What is the track record of authors in terms of past performance? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

<b>Comments</b>	Yes
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## Technical Review #1

<b>Rating</b>	very good
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### Budget

Is the budget reasonable and adequate for the work proposed?

<b>Comments</b>	The cost of Task 4 (Site Maintenance) of \$142,600 seems high. This is for the last two years of the study and should be one of the cheapest components. Once the database and website are set up, data entry/QA/QC should be fairly routine and cheap. The rest of the elements of the proposed studies are reasonable.
<b>Rating</b>	good

### Overall

Provide a brief explanation of your summary rating.

<b>Comments</b>	Not many details are provided on some of the tasks. But the proposed work is fairly standard, and from the general descriptions it can be accomplished in the time frame allotted and will be useful to salmon fisheries management and restoration in the San Joaquin Basin.
<b>Rating</b>	very good

# Technical Review #2

proposal title: Data Accessibility and Accuracy Evaluation for the San Joaquin River Salmon Program

## Review Form

### Goals

Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the idea timely and important?

Comments	<p>The goals of this proposal represent a mixture of three different activities: data cleanup and analysis to insure their reliability and quality; granting accessibility to the data to those who want them via the internet; and attempting to stimulate more interaction between the SJR salmon monitoring program and other scientists. Those are not quite the same as expressed in the executive summary. For purposes of proposal evaluation, I have chosen to use those in the body of the proposal. Since only the cleanup of the data is a scientific activity, the first two hypotheses stated are trivial in that they represent untestable assertions about cause (better data, more available) and effect (greater use). The remaining two hypotheses are testable in principle using existing data. However, both address data reliability issues that are useful mostly for building confidence in potential users. It seems the most likely users already are familiar with these data, and have probably formed an opinion about their utility already. Testing these hypotheses may be timely, but probably isn't very important. Having said this, making the data more error-free and available may still be a worthwhile objective for CalFed to support, provided there is a genuine pressing need for them.</p>
Rating	fair

## Technical Review #2

### Justification

Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

Comments	This proposal seems to be driven by a need to make the data accessible and hope that permits greater use and interaction. "Justification" in this case translates into evidence that making the data more accessible will stimulate more use and interaction. No justification for greater use was to be found in this proposal. Instead, it relies on an adaptive management argument, taken from the Adaptive Management Forum, stating that great monitoring data access was needed to implement an adaptive management program. While this may ultimately prove to be true (it is difficult to see how adaptive management could be designed and implemented without data to at least indicate a faulty policy), putting SJR salmon data online is a very small part of the process. More importantly, what evidence is there that there are users for the data who would not have called or written by now? How large is the potential user pool? How many would want DFG to conduct the assurance analyses rather than do it themselves, since the raw data are part of the uploading proposal? Clearly, this proposal will generate work within the SJR unit, but how many would notice? More justification that the cost and effort would be rewarded is needed here.
Rating	poor

### Approach

Is the approach well designed and appropriate for meeting the objectives of the project? Is the approach feasible? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology, or approaches? Will the information ultimately be useful to decision makers?

## Technical Review #2

Comments	<p>Most of the proposed work is associated with building a website optimized for users, or with additional tagging and analysis of the recovered marked carcass data. The proposal indicates the data will be up on the website after one year, but the website will be maintained indefinitely as part of the DFG website. It is unclear how much of the website will be constructed by Doten and team and how much by existing DFG personnel to meet local specifications. The remainder of the work is elaboration of the carcass mark-recapture program to correct for sampling biases associated with age and sex and to complete population estimation via mark-recapture estimation statistics. All this work is highly feasible, and in fact pretty routine. The real question is if its worthwhile. The utility of the website and refinements of the monitoring program are only worthwhile if the data are meaningful and a necessary part of future management. The proposal fails to provide this information, and at this point it is unclear what value it has. Putting the data online is marginally useful, but it is the meaningfulness of the data, more than refinements to correct biases or reduce estimation errors. To me, at least, more accurate tracking of the remnant Chinook run up the San Joaquin River system does not have much priority for research funds.</p>
Rating	fair

## Feasibility

Is the approach fully documented and technically feasible? What is the likelihood of success?  
Is the scale of the project consistent with the objectives and within the grasp of authors?

Comments	The work planned is certainly feasible, without question.
Rating	good

## Technical Review #2

### Monitoring

If applicable, is monitoring appropriately designed (pre–post comparisons; treatment–control comparisons)? Are there plans to interpret monitoring data or otherwise develop information?

Comments	Not really applicable. Monitoring is continuing, in the sense that carcass surveys will continue to be used to generate population estimates. However, this is not monitoring in the usual sense of followup to measure the results of an experimental treatment.
Rating	not applicable

### Products

Are products of value likely from the project? Are contributions to larger data management systems relevant and considered? Are interpretive (or interpretable) outcomes likely from the project?

Comments	Funding of this proposal will yield an updated website that provides fast access to both the raw and processed data, and will support estimation of age, location and sex biases in the carcass data. It remains unclear how much extra value would be generated in the event all tasks are completed. I would not expect direct scientific papers. The value of exposure to future cooperation and publication activity is unknowable.
Rating	good

### Additional Comments

Comments	This was one of the most sloppily-written proposals I have seen in several years. Grammatical and composition errors were annoying and in a few cases made it quite a chore to plow through this proposal. The PI needs to take the time to correct typos, leftover words that were meant to be deleted, and simple mistakes in expression before it reaches the
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## Technical Review #2

submission stage.
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### Capabilities

What is the track record of authors in terms of past performance? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

Comments	The credentials of the PI (Heyne) and the principal consultant (Dotan) are serviceable but not clearly outstanding qualifications for the proposed work. It is unclear how much Dotan will actually do with website development relative to DFG personnel, and it is similarly unclear how much Heyne will do outside his supervisory capacities. I think unnamed assistants will do much of the work.
Rating	good

### Budget

Is the budget reasonable and adequate for the work proposed?

Comments	It is difficult to imagine that a budget of nearly 600K over three years is needed for this proposal. Nearly 77% of the budget goes to website development without much detail in expenditures to salary and materials. The fieldwork and statistical analysis gets the remaining 23%. Funding the corrections might be worthwhile, but I think the cost for a website that might only last three years is prohibitively expensive.
Rating	poor

### Overall

Provide a brief explanation of your summary rating.

Comments	This is a proposal whose major weakness is the lack of justification of effort and expense for products whose
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Technical Review #2

	utility remains unclear.
Rating	poor

# Technical Review #3

proposal title: Data Accessibility and Accuracy Evaluation for the San Joaquin River Salmon Program

## Review Form

### Goals

Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the idea timely and important?

Comments	I strongly support the scientific component of this proposal. Improvement to adult escapement estimates are critical to evaluation of CALFED restoration activities Making the data accessible will promote thorough analyses and lead to better estimates, and improve monitoring.
Rating	very good

### Justification

Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

Comments	The carcass survey bias evaluation is very strongly justified. Data synthesis and accessibility are important components of the proposal but I am not sure about the need for the high cost of making everything accessible via the web, including maps, GIS layers, etc. I think there will be a limited number of user's who will contribute to improving the escapement estimates via alternate analyses. Distribution of data via FTP of an access database would definitely be a much cheaper solution while still meeting the overall objective of the project. In my opinion, all the public needs is an annual time series of escapement
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### Technical Review #3

	estimates for various rivers. This chart could be produced by the PI on an annual basis and posted on any CALFED website.
Rating	very good

## Approach

Is the approach well designed and appropriate for meeting the objectives of the project? Is the approach feasible? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology, or approaches? Will the information ultimately be useful to decision makers?

Comments	<p>Carcass Survey Bias Evaluation Approach in 5.1 is sound, as long as the weir is operating for the full duration or majority of the run. I am not quite sure of the point of the spatial analysis. How will an estimate of the spatial bias improve the overall escapement estimate? Perhaps the justification here is to improve recovery efficiencies in the long term. Approaches for 5.2-5.5 are sound/non-issues.</p> <p>Website Development As stated above, I have my reservations about the need for an expensive web-based database system. I believe a stand-alone Access database would probably be sufficient for the true number of users. I support the overall project but would prefer to see more money spent on fieldwork, analysis, and publication then on the web-based database</p> <p>For the cost of the website development, one could purchase, install, and maintain a series of resistivity counters that would very likely provide much more accurate escapement estimates than can derived from mark-recapture. It is too bad that the proposal wasn't refocused on the broader</p>
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### Technical Review #3

	objective of improving escapement estimates, rather than on improving the current mark-recapture program. This aspect of the proposal reduced my ranking of the Approach.
Rating	good

## Feasibility

Is the approach fully documented and technically feasible? What is the likelihood of success?  
Is the scale of the project consistent with the objectives and within the grasp of authors?

Comments	It is clear from the proposal that the PI in charge of the carcass recovery component of this project knows what he is doing and has a good knowledge of analytical methods, which is important for implementation of sound mark-recapture program. Creation of a web-based information system has been done many times and the contractor seems capable.
Rating	excellent

## Monitoring

If applicable, is monitoring appropriately designed (pre–post comparisons; treatment–control comparisons)? Are there plans to interpret monitoring data or otherwise develop information?

Comments	Excellent in this respect.
Rating	excellent

## Products

Are products of value likely from the project? Are contributions to larger data management systems relevant and considered? Are interpretive (or interpretable) outcomes likely from the project?

Comments	Improved analysis, publication (which will verify/improve analysis and disseminate information). The website is overkill
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### Technical Review #3

Rating	very good
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## Additional Comments

Comments
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## Capabilities

What is the track record of authors in terms of past performance? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

Comments	Based on the proposal and resumes, both the biologist PI and the web/database analyst seem very qualified.
Rating	excellent

## Budget

Is the budget reasonable and adequate for the work proposed?

Comments	<p>I assume that the budget layout is a CALFED form and not the preferred presentation of the PI's. If this is how the PI's think information should be displayed they shouldn't be building a web site!</p> <p>The problem I have with this proposal is the large cost associated with the database and website. After overhead (contract administration and public involvement) I calculated roughly a working budget of \$500k. About 75% of this budget is associated with the website and database. As stated above I really doubt if there are hundreds of potential user's out there who need access to the raw mark-recapture data. The high cost of the website can therefore not be justified. The database component of the budget should be cut to no more than \$100k, with the product being an Access database distributed via FTP.</p>
Rating	fair

### Technical Review #3

## Overall

Provide a brief explanation of your summary rating.

Comments	<p>This project should be funded, but probably at about half the cost that is being requested. No money should be diverted from the carcass survey bias evaluation. The website/database component of the project should be reduced to \$100k or less.</p> <p>I found it difficult to assign an overall ranking for this proposal. The carcass bias evaluation is Excellent. The website component ranks Poor in my opinion, but a data synthesis and database is required. I therefore gave this proposal a Very Good ranking under the assumption that the final CALFED review will result in a substantial reduction in the website component of the project.</p>
Rating	very good

